REMARKS

Claims 1 and 3-15 are pending in this application. Claim 2 has been canceled and the recitations thereof incorporated into Claim 1. Claims 9-15 are added herein to further define various aspects of the invention.

Claim 1 includes various embodiments in which the pre-crystallization composition itself may or may not include a noble metal. Regardless of when in the process a noble metal is added, the noble metal is present in the mixture of the process of claim 1, before the mixture is subjected to the heat treatment recited in the claims. For example, the noble metal may form part of the pre-crystallization composition, or it may be added to the pre-crystallization composition (before mixing with the theta-alumina and/or alpha alumina), or the noble metal may be further mixed into a mixture of pre-crystallization composition and theta-alumina and/or alpha alumina. New claims 9-10 further clarify some of these various possibilities. Additionally, new independent claim 12 is similar to claim 1, and is believed to clarify some of the above-discussed aspects of claim 1. New claims 13-15 parallel claims 9-10.

No new matter is believed to have been added by these new claims. In particular, support for new claims 9 and 13, in which noble metal is present in the pre-crystallization composition along with other elementary components of the perovskite-type composite oxide, may be found *e.g.*, at page 5, lines 19-24, and page 16, line 20-page 17, line 2 of the specification, and in original claims 6 and 7. Support for new claims 10, 11, 14 and 15 may be found *e.g.*, at page 15, lines 2-20 of the specification, in which the aqueous mixed solution of elements excluding a noble metal may be itself considered the pre-crystallization composition (see line 1), and the

noble metal may be mixed in prior to, concurrently with, or after addition of theta-alumina and alpha-alumina. Similarly, page 16, line 20 – page 17, line 16 of the specification provides support for claims 10, 11, 14 and 15 with respect to the citrate complex process in which the aqueous mixed solution of elements excluding a noble metal may be itself considered the pre-crystallization composition (see page 17, line 6), and the noble metal may be mixed in prior to, concurrently with, or after addition of theta-alumina and alpha-alumina. (See page 17, lines 3-16).

Page 17, line 17 – page 18, line 4 of the specification provides support for claims 10, 11, 14 and 15 with respect to the alkoxide process in which the mixed alkoxide solution containing alkoxides of the respective elements excluding a noble metal, may be itself considered the pre-crystallization composition (see page 17, line 19), and the noble metal may be mixed in prior to, concurrently with, or after addition of theta-alumina and alpha-alumina. (See page 17, line 17-page 18, line 4).

Reconsideration and withdrawal of the outstanding rejection, and allowance of all the claims are respectfully requested.

Claim Rejection Under 35 U.S.C. §103

Claims 1, 5 and 8 were rejected under 35 U.S.C. §103(a) as allegedly being obvious over Yoshiyuki et al. (JP 63-302950) in view of Noguchi et al. (U.S. Patent No. 4,237,030). Further, Claims 2-4 were rejected under 35 U.S.C. §103(a) as allegedly being obvious over Yoshiyuki et al. and Noguchi et al. as applied to claim 1, and further in view of Kaneko et al. (U.S. Publication No. 2001/0053467). Further still, claims 6-7 were rejected under 35 U.S.C. § 103(a)

as allegedly being obvious over Yoshiyuki et al. and Noguchi et al. as applied to claim 1, and further in view of JP 11-262663. Applicants traverse this rejection in its entirety.

The present claims recite methods that include mixing elementary components of a perovskite-type composite oxide containing a noble metal with a powder of theta-alumina and/or alpha-alumina to prepare a mixture that is subjected to heat treatment. As clarified herein, in the present claims the noble metal component and the theta-alumina and/or alpha alumina may be added at the same or different times with respect to one another (*e.g.*, the noble metal being present before or after the alumina). However, in all claimed embodiments, the noble metal, powder of theta-alumina and/or alpha-alumina, and the other elementary components of a perovskite-type composite oxide are all present in the mixture before it is subjected to heat treatment.

The primary reference, Yoshiyuki, does not teach or suggest a mixture that includes a noble metal as part of a mixture including a powder of theta-alumina and/or alpha-alumina, and other elementary components of a perovskite-type composite oxide. Rather, in Yoshiyuki, a rare earth metal in an aqueous solution of nitrate is immersed in an alumina carrier and then dried and calcined. Then, a slurry is prepared by crushing a mixture of powder of rare earth metal oxide, activated alumina carrier and perovskite type compound oxide powder. No noble metal is added to the mixture/slurry of Yoshiyuki. The only noble metal present in the Yoshiyuki process is that deposited over the surface of a carrier after the perovskite type compound has been coated on a carrier, dried and calcined. Thus, the noble metal of Yoshiyuki is deposited over the coated layer of perovskite type compound oxide and activated alumina.

Accordingly, for at least this reason, Applicants respectfully submit that Yoshiyuki does not teach or suggest the presently claimed methods, which require a noble metal be present in a mixture that includes a powder of theta-alumina and/or alpha-alumina, and other elementary components of a perovskite-type composite oxide.

Moreover, Yoshiyuki discloses that alumina containing a perovskite-type composite oxide is obtained, applied to a monolith support and burned. After burning, the support is impregnated by noble metals (see Example).

On the other hand, in the amended Claim 1, the noble metals exist in a crystal structure of the perovskite-type composite oxide represented by the general formula (1). That is, the noble metals are not supported by the alumina containing the perovskite-type composite oxide afterward as disclosed by Yoshiyuki.

Applicants further submit that Nogushi does not make up for the deficiencies of Yoshiyuki. Nogushi was cited only for allegedly teaching the use of alpha or theta alumina. Applicants do not concede that one would be motivated to try to combine the references at least because Nogushi is directed to very different carriers, which do not include a perovskite type compound. But even if one did combine the references, Nogushi (like Yoshiyuki) also does not teach a mixture that includes a noble metal, powder of theta-alumina and/or alpha-alumina, and other elementary components of a perovskite-type composite oxide.

Because neither Yoshiyuki nor Nogushi teaches or suggests the recited mixture, Applicants respectfully submit that none of the independent claims, or the claims dependent

therefrom are rendered obvious. Accordingly, for at least this reason, Applicants request withdrawal of each aspect of the present rejection.

For at least the reasons indicated above, Applicants respectfully request that the Examiner reconsider and withdraw the present rejections and allow the application.

If the Examiner believes that there is any issue which could be resolved by a telephone or personal interview, the Examiner is respectfully requested to contact the undersigned attorney at the telephone number listed below.

Applicants hereby petition for any extension of time that may be required to maintain the pendency of this case, and any required fee for such an extension is to be charged to Deposit Account No. 50-0951.

Respectfully submitted,

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